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**CENTRAL INTELLIGENCE AGENCY**

Office of Legislative Counsel  
Washington, D. C. 20505

Telephone: [redacted]

8 March 1978

**TO:** Committee on Foreign Relations  
United States Senate  
S-116, The Capitol  
Washington, D.C. 20510

ATTENTION: Bill Ashworth

Dear Bill,

[redacted] passed on  
your request for information on  
Soviet ballistic missile sub-  
marines. I am forwarding a copy  
of the Aviation Week article  
along with a one-page memorandum,  
which I hope will provide the answers  
you wanted. Please do not hesitate  
to contact me if I can be of  
further assistance.

Sincerely,

[redacted]

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# Soviet Submarines Violate Pact

Russians have two more boats at sea than permitted under interim offensive agreement; three more ready to deploy

By Clarence A. Robinson, Jr.

Washington—Soviet Union is operating 64 ballistic missile submarines in violation of the interim offensive agreement that binds both sides pending completion of the second strategic arms limitation accord now being negotiated in Geneva.

Under the interim pact, the USSR is permitted 62 ballistic missile boats with an aggregate 950 launchers. The interim agreement expired Oct. 3, 1977, but both sides said they would respect it until it is replaced with a new agreement.

In addition to the 64 ballistic missile submarines already at sea, the Soviets have three Delta class submarines outfitted and ready to put to sea. That is partially the reason why the official Soviet newspaper, Pravda, recently called for a rapid conclusion of the SALT 2 treaty, U.S. strategic arms experts said. One official of the Administration of President Jimmy Carter said that with the limit in the SALT 1 accord, "the Russians are shackled because they are moving more and more of their nuclear armed missiles to sea, phasing out older ICBMs [intercontinental ballistic missiles], and they are stymied until SALT 2 is ratified."

Under the proposed SALT 2 agreement based on the Vladivostok framework, it would not be necessary to dismantle or destroy older ICBMs in order to increase SLBMs, provided that the aggregate limit of 2,400 strategic delivery systems—ICBM launchers, SLBM launchers and heavy bombers—or the sublimit of missiles with multiple independently retargetable vehicles is not exceeded, a Defense official told Congress.

U.S. officials said that in addition to the Delta submarines now at sea, there are another six or seven Hotel class boats being operated that also are over the limit in SALT 1. "Part of the problem is that the Soviets said they were dismantling some of the older ballistic missile submarines, but there is no real move on their part to do that," another U.S. official said.

"This is just another example of the Russian characteristic to see how far they can push until we call them on it," the official added. "It was only a year or so back when we had to demand that they dismantle some SS-7 and SS-8 ICBM launchers to compensate for submarines armed with ballistic missile launchers [AW&ST May 31, 1976, p. 14; May 24, 1976, p. 20].

"They were in violation of the interim treaty then," the official added.

The protocol to the interim agreement permitted both the U.S. and USSR to increase the size of submarine-launched ballistic missile forces—from 656 to 710 on 44 boats for the U.S. and from 740 to the 950 on 62 submarines for the USSR. But any increase would be subject to a

under construction on the date of the SALT 1 agreement required dismantling and destruction of ICBM launchers on a one-for-one basis.

"It was clearly a part of SALT 1 and understood by both sides that Hotel boats would be counted," one U.S. strategic arms expert said. "Now, however, the U.S. has waffled on that item, and it is unclear just what we are counting."

Gen. George S. Brown, chairman of the Joint Chiefs of Staff, told Congress this month that "the Soviet ballistic missile submarine force continues to grow in size and capability, a reflection of its high priority. As of Jan. 1, 1978, the Soviets had almost 900 submarine-launched ballistic missile launchers on SSBNs in operational status. There are additional launchers on SSBNs, which are fitting out, on sea trials or under construction. There also

## Backfire Issue

Washington—Soviet Union's Tupolev Backfire bomber is expected to be eliminated from any formal treaty arrangement between the U.S. and the Soviet Union as part of the Strategic Arms Limitations Talks (SALT) 2.

Congressional staff members said U.S. negotiators have agreed to a Soviet bargaining position that the Backfire be handled in a separate written statement to be issued by the Kremlin leadership that assures the bomber will not be deployed as a threat against the U.S., and that the monthly production rate will not be increased.

At the same time, the U.S. also would issue a statement that would present conflicting views concerning the Backfire. "None of the Soviet so-called collateral restraints are verifiable," a congressional staffer said.

Sen. John Tower (R.-Tex.), a member of the Senate Armed Services Committee, said he is dissatisfied with State Dept. explanations concerning the Backfire issue. "The Soviet Backfire bomber has strategic capability," he said, after meeting with State Dept. officials. "It is undeniable. I will not be a party to any delusions to the contrary."

are launchers on older diesel units, are not accountable under the SALT interim agreement."

In response to an AVIATION WEEKSPACE TECHNOLOGY query, the Defense Dept. said that the Soviet Union was operating, as of Jan. 1, the following number of submarines:

- Yankee class nuclear-powered—armed with 16 SS-N-6 ballistic missiles with a range of 2,400-3,000 km. vessels.

- Delta class boats—27. This is a total of both the 12-launcher Delta 1 and 16-launcher Delta 2. Both vessels are armed with the SS-N-8 missile with a 7,800-km. range.

- Other older ballistic missile submarines—30. This includes nuclear-powered Hotel boats that are armed with three SS-N-5s each. The missile has a range of 1,300 km.

- Cruise missile submarines—65.

- Attack submarines—195.

Defense Secretary Harold Brown said the Soviet SLBM force continues to undergo both expansion and modernization. Construction of the Yankee-class submarine stopped at 34 boats with 16 launchers. "However, we believe that the new solid-fuel missile with a post-boost vehicle, greater accuracy and range—SS-NX-17—may be backfitted into some or all of the Yankees. To date, only one unit has been so fitted," Brown said.

He added that "the Soviets now have a total of 27 Delta submarines. The Delta 1s and 2s carry the SS-N-8, a single-warhead missile with a range of at least 7,800 km. A new submarine, the Delta 3, is now undergoing sea trials. The Soviets are testing the SS-NX-18—a very long-range liquid post-boost vehicle and up to three MIRVs.

Both the SS-N-8 and the SS-NX-18 will permit the Soviets to cover targets located in the U.S. from patrol areas as distant as the Barents Sea and the waters of the North Pacific. With the SS-N-8 the Soviets already have a system with a greater range than the Trident 1," Brown explained.

The Delta 3 has 24 launchers:

- One of the major problems facing the U.S. Navy today is obsolescence of the Poseidon fleet ballistic missile force. The normal 20-year life of some Poseidons is being extended to 25 years, but even with that there will be a significant reduction in U.S. SLBM launch tubes in the 1980s.

"Since the Polaris/Poseidon force was built at a faster rate than that planned for Trident, with a 20-year service life, the U.S. would encounter a low level of SLBM launchers in 1986 as compared

Additional considerations are the role SLBMs will play in the future U. S. mix of strategic forces.

"However, potential force levels can be inferred based upon current SLBM levels or potential SALT 2 outcomes. Should significant strategic arms reductions occur, it is possible that a MIRV limit which reflects current levels could be imposed. In this case, our current level of 496 MIRVed SLBM launchers would equate to 21 Trident submarines. Adherence to the extended interim strategic arms limitation agreement with its limit of 710 SLBM launchers could be accommodated with 29 Trident submarines or 696 Trident launchers. Finally, some unidentified share of a SALT 2 accord MIRV limit will be allocated to MIRVed SLBM launchers."

The Soviet Union is stressing to U. S. SALT negotiators in Geneva that when the new agreement is signed the USSR does not expect to scale down its present force of strategic delivery vehicles to meet the imposed ceiling until 1981 or 1982.

"This would be after the expiration of the three-year protocol if the agreement is concluded and ratified in this year," one Administration official said, "and it gives them awesome political leverage to extend the protocol with favorable terms in an agreement. They have told us privately at the negotiating level that they would abrogate the treaty [SALT 2] if the protocol is not extended."

### B-1 Defeat

Washington—Long congressional battle to retain funding for aircraft 5 and 6 of the USAF/Rockwell International B-1 bomber ended last week when the House voted to rescind \$462 million previously appropriated for Fiscal 1977.

The final House vote of 234 to 182 marked the largest margin for anti-B-1 proponents in the House in a recent series of floor actions and agreed with a Feb. 1 Senate vote to pass a rescission amendment upholding the decision of President Jimmy Carter to terminate B-1 production (Awar Feb. 6, p. 24).

The House action ended a protracted see-saw congressional battle that began last year when the Administration's decision to kill the B-1 was challenged by pro-B-1 forces to retain aircraft 5 and 6. While B-1 opponents maintained that the bomber was not cost effective, B-1 advocates stressed that the aircraft was vital to retain a strategic bomber production capability in the U. S. defense posture.

While the House vote effectively terminated the aircraft's production, research and development funds for the B-1 would continue to be spent.

## Pravda Warns on Effort To Change SALT Pact

Washington—Soviet Union, through its official government newspaper, Pravda, is warning the U. S. that efforts to retouch or improve the second strategic arms limitation agreement now being negotiated in Geneva could have serious consequences.

The delay in concluding the SALT 2 agreement is discussed by Pravda in an unusual article on prospects and problems related to the negotiations.

The USSR government organ cited forces in the U. S. it claims are operating to retard conclusion of the treaty. Calling them opponents of detente, it said the figures, whom it identified as retired high-ranking military men, specialist theorists on strategic issues, bodies like the "so-called Committee on the Present Danger, and certain press organs playing the role of direct advocates for the Pentagon and military-industrial complex, openly oppose any arms limitation agreement with the USSR and are urging the build-up of military efforts and the securing of military supremacy over the USSR."

The Soviet Union, Pravda said, will not accept any retouching taking place in specific areas of the agreement by these opponents. The areas include:

- Cruise missiles.
- Verification (monitoring observance of the treaty).
- New strategic systems and modernization of existing systems.
- Backfire bomber.
- Neutron bomb deployment.

Pravda said the U. S. admits that long-range cruise missiles are strategic weapons and must be subject to limitation with other strategic systems, such as intercontinental ballistic missiles, submarine-launched ballistic missiles and heavy bombers.

"The sides eventually agreed that air-to-surface cruise missiles with ranges from 600 km. to 2,500 km. must be limited," Pravda explained. "It was agreed to equate heavy bombers equipped with such missiles to strategic missiles with MIRVed [multiple independently targetable reentry vehicle] warheads and to count such bombers within the fixed ceiling of 1,320 such carriers on each side. As for air-to-surface cruise missiles with ranges over 2,500 km., these are subject to complete ban."

Agreement also was reached on sea-launched and surface-launched cruise missiles with ranges over 600 km. "It is intended that the testing and deployment of these weapons be banned initially for a period of three years, to give the sides further time to find a final solution," according to Pravda.

The official newspaper added that it seemed that everything was clear and that "the task remaining was basically to...

...nical one of formulating those details in appropriate treaty language."

Advocates of retouching the agreement then went into action, Pravda declared that this is a totally unnecessary concession in the USSR's favor, and to effectively emasculate the agreement.

The argument was offered by those who claim that cruise missiles could be deployed virtually any type of aircraft, in transports.

"In practice, this would make possible the emergence of an unlimited and virtually uncontrolled number of aircraft loaded with dozens of long-range cruise missiles and possessing the same offensive force as the nuclear warheads of ICBMs and submarine-launched ballistic missiles," Pravda added.

The effect would make the treaty a "mere scrap of paper rather than a document of understanding aimed at preventing a nuclear war. The Soviet Union will not sign its signature to such a scrap of paper."

Pravda stated that the opponents of SALT 2 are also seeking to remove restrictions from sea- and surface-launched cruise missiles and called it a "serious attempt to insure that, after the three-year protocol to the treaty ends, there will be freedom to develop cruise missiles to increase their range above the 600 km. limit and ultimately to retain the possibility of deploying them outside the U. S. borders."

### Fuel Efficiency Studied

Studies on a fuel-efficient light-turbine powered automobile will be undertaken by Williams Research Corp., Warren, Mich., under a \$405,000 contract from National Aeronautics and Space Administration's Lewis Research Center.

Williams, manufacturer of light turbine engines, will act as prime contractor on the program, doing engine performance studies leading toward an engineering development phase for a vehicle by 1983. AM General Corp., Southfield, Mich., is getting \$114,000 to provide Williams with vehicle and vehicle system engineering support.

Design objectives include a 20% improvement in power train efficiency and at least a 20% improvement in fuel economy from a 1976 Environmental Protection Agency-rated compact car in the 3,100-lb. weight class.

Washington—Initial deployment of the Russian three-stage mobile SS-16 intercontinental ballistic missile is under way in fixed-site silos in the Soviet Union. U. S. officials last week said that while the missile is expected to be deployed in a mobile mode on erector/launchers at a later date, limited numbers are now operational in silos.

Defense Secretary Harold Brown told Congress recently the Soviets have essentially completed development of "a fourth ICBM—the SS-16—which we believe to be intended as a land-mobile system, although it can be placed in silos. It is a solid-fuel, three-stage missile with a post-boost vehicle. However, it currently carries a single warhead."

Brown added that the SS-20, a mobile intermediate-range ballistic missile that consists of the first two stages of the SS-16, is already deployed (AWST Jan. 2, p. 13).

"We estimate it has a range of at least 3,000 km. and can carry three MIRVs to that distance," he said. "We estimate that it will replace or augment the current force of medium-range ballistic missiles and IRBM launchers and that, with a successful multiple refire capability, it could provide roughly three times the number of warheads of the older force."

"In addition, the Soviets have a fifth generation of ICBMs in development, estimated to consist of four missiles. Flight testing of one or two of these missiles could begin at any time, with the others following by the early 1980s."

The Soviet Union continues to exploit the interim offensive SALT 1 agreement with deployment of ICBMs. These include:

- Converting SS-9 launchers for the SS-18. There are now approximately 100 SS-18s operational in silos, and work is continuing on others. The U. S. expects all SS-9 silos to be converted for the SS-18. There are three variations of the ICBM, and all three are expected to be deployed. The cold-launch

missile is ejected from its silo by a gas generator (AWST Feb. 4, 1974, p. 14) and the main boosters fire. As a result, the silo is not damaged and can be reloaded. The Mod 1 and 3 of the SS-18 have a single reentry vehicle, and the Mod 2 can accommodate eight to 10 reentry vehicles. The Mod 3 has greater range than the other two and is more accurate than the Mod 1.

- Deployment of more than 60 SS-17s now operational in converted SS-11 silos. Other conversions to accommodate the SS-17 are in progress. The conversion pace of the SS-17 is running slower than the U. S. anticipated. Conversions are expected to be limited at each launch complex to avoid having too many SS-11s off line at one time. The MIRVed version with four warheads is operational in some silos. Since it has been tested with MIRVs, all SS-17 silos will be counted as MIRVed.

- Conversions of SS-11 silos to the SS-19. More than 200 SS-19s are now operational, with additional SS-11 silos under conversion. The SS-19 can carry six reentry vehicles, and a single reentry vehicle is now being tested on the weapon. All SS-19 silos count as MIRVed.

Referring to the SS-16, Gen. George Brown, chairman of the Joint Chiefs of Staff, told Congress this month: "They have apparently decided not to deploy it in the mobile mode at this time. They may be expected to continue mobile ICBM development efforts to further their technology in this area."

"An even more serious question centers on Soviet deployment of the MIRVed SS-20 mobile IRBM and the relationship of that system (which is outside the SALT parameters so long as its range is less than 5,500 km.) to the SS-16, which is included in SALT," Gen. Brown continued. "The SS-20 comprises the first two stages of the three-stage SS-16. By upgrading SS-20 deployment to the SS-16, the Soviets could increase their mobile ICBM capability relatively quickly."

maximum service life is attained, the nadir will be 480 SLBM launchers in 1982," Navy officials said.

U. S. SLBM launcher levels have lagged the Soviet Union since the end of Fiscal 1974. "The combination of a steadily increasing Soviet SLBM force level, block obsolescence of the United States Polaris/Poseidon force, and a slow Trident ship-building rate clearly predicts a continued Soviet advantage in SLBM launchers, the most invulnerable element of each nation's strategic forces for the foreseeable future," Navy officials said.

Of the current force of 41 fleet ballistic submarines, which were commissioned between 1960 and 1967, the oldest is now 18 years old, and the Navy is experiencing increasing materiel maintenance costs. Navy officials told Congress: "The uncertainties associated with the technological obsolescence of these ships in the face of the increasing Soviet antisubmarine warfare threat, the increasing maintenance costs that we are experiencing, the inability to backfit modern noise reduction techniques and ship systems into these ships and the lack of growth room for future improvements in ship and missile systems make it inadvisable to plan on a service life much beyond 20 years."

The Navy is backfitting the Lockheed Trident 1 ballistic missile into a portion of the Poseidon force. This will improve

survivability because of the resultant expanded operating area allowed by the missile's increased range, and will provide the ability to cover potential targets upon departure from the continental U. S. bases without the need for lengthy transits.

The Soviet Union is expected to build more than 90 new ballistic missile submarines by the 1990s, according to U. S. strategic weapons experts, and because the boats now being operated by the Russians will have a service life of only 12-15 years at that time, the U. S. cannot expect them to dismantle them, one Administration official said. There is a question about where the Soviets are going with the SLBM program, the official added.

"It is as difficult as the questions now

being raised about the numbers of SLBMs the Soviets have at sea. Under the agreement, both sides count submarines as deployed when they begin sea trials. The question now has narrowed to when is a boat at sea trials.

"There is clearly a backlog of Soviet boats awaiting sea trials," the official added.

The U. S. believes the best way to insure survivability of the SLBM force is to keep a maximum percent of the boats at sea. Currently 72% of the Poseidon force is at sea, and the Navy plans to maintain 78% of the Trident force at sea. This will yield a 63% increase in missiles because the 24 launchers on Trident compare with the 16 on Poseidon boats.

The Trident 1 (C-4) ballistic missile is proceeding toward an October, 1979, operational availability date. There have been 11 flight tests with the missile from a pad at Cape Canaveral, Fla., and 10 have been successful. Operational deployment in the Poseidon is scheduled for late 1979.

"The ultimate Trident force level is under continual review," a Navy official said, "and will be influenced by several interrelated factors. Primary among these will be the outcome of the on-going SALT negotiations, which will cap the number of MIRVed strategic missiles the U. S. will

### Israeli Fighter

Subcommittee of the Israeli Knesset defense committee has recommended that the country proceed with the development of a new air-superiority fighter. The subcommittee estimated development costs at \$450 million.

The recommendation is being opposed by several officials within the Israeli air force and finance ministry.

If the project is undertaken, it is expected that the fighter will be powered by non-U. S. engines.